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Inventor: BATEMAN, Paul
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: BATEMAN, Paul

Entitled: **SEPARATION AND DETECTION OF SPERMATOZOA**

Box Patent Application
Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

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PETITION TO MAKE SPECIAL FOR NEW APPLICATION UNDER M.P.E.P. § 708.02, VIII

Applicant hereby petitions to make this new application, which has not received any examination by the Examiner, special. All of the claims are directed to a single invention. If the Office determines that all of the claims presented are not obviously directed to a single invention, then applicant will make an election without traverse as a prerequisite to the grant of special status.

A search has been made by the European Patent Office as International Preliminary Examining Authority in connection with the parent International Application No. PCT/GB99/02685. Submitted herewith is a copy of the search report and copies of the references deemed most closely related to the subject matter encompassed by the claims. Also attached is Form PTO - A820 (formerly Form PTO-1449).

Included herewith is a detailed discussion of the references disclosed on Form PTO-A820, which discussion particularly points out how the claimed subject matter is distinguishable over the references. None of the seven documents considered by the IPEA have been held to be prejudicial to novelty or inventive step.

D1: US-5575914

D1 discloses a filter trap for separating viable and non-viable sperm, and is based on the use of glass wool of a specified density. In the present application, motile sperm become able to migrate from a semen sample when the opposed face of the filter is wetted by a liquid medium ('activated'), and separation does not rely on the intrinsic properties (e.g. thickness or porosity) of the filter. In D1, however, separation occurs by gravity-driven flow through a dry glass matrix, with the intrinsic properties of the glass 'filter trap' being vital. Sperm separation in D1 is thus based on different principles from those of the claimed invention.

D2: US-5866354

D2 had not been published at the priority date of the present application. Moreover, it was placed in category 'A' by the ISA. D2 discloses methods for assessing avian fertility by measuring sperm mobility. This is achieved by placing a layer of diluted semen sample in direct contact onto a layer of denser 'barrier medium'. Sperm cross the immiscible liquid-liquid interface and, after a period of time, the sperm in the 'barrier medium' are assayed. There is no disclosure of utilizing any sort of filter to separate motile and non-motile sperm. Furthermore, separation of the starting sample and the filtered sample is poor because the two liquid media remain in contact - there is nothing to partition them from each other.

D3: US-5908380

D3 had not been published at the priority date of the present application. Moreover, it was placed in category 'A' by the ISA. Sperm separation in D3 involves swimming from inside a truncated cone through the apical hole, and then back down the sides of the cone into the 'periconical area'. Sperm do not cross through a filter of any sort within the D3 device.

D4: EP-A-0446509

D4 is similar to D1 - it involves a simple filtration column for separating sperm. Filtration depends on the size stringency of 'lower disc (3)' and on the dehydrated 'sephadex beads (4)' *i.e.* filtration relies on intrinsic properties of a filter material. There is no disclosure of a filter which is 'activated' when its opposing face is wetted. Unsurprisingly, this document was placed in category 'A' by the ISA.

D5:JP-04200473

D5 is, again, similar to D1 - it describes an essentially conventional filter based on glass beads. Like D4, there is no disclosure of a filter which is 'activated' when its opposing face is wetted.

D6: US-5935800

D6 had not been published at the priority date of the present application (although the PCT equivalent had been published). D6 is mainly concerned with the use of coloured reagents for detecting sperm. Actual sperm separation is only a secondary concern in D6, and conventional filter-based separation is used. This document is thus no more relevant than D1, D4 or D5.

D7: FR-2614899

This is another document which was placed in category 'A' by the ISA. It uses a series of filters to separate sperm, but none of the filters requires the opposed face to be wetted before separation can occur. Filtration is, once again, of the same type as D1.

Thus none of the seven documents disclose the general principle of using a filter which, when wetted on the face opposed from the semen sample, is 'activated' such that motile sperm can swim through it, thereby effecting separation from non-motile sperm.

The fee required by 37 C.F.R. § 1.17(i) is to be paid by the attached check for $130. The Commissioner is hereby authorized to charge fees under 37 C.F.R. 1.17 which may be required, or credit any overpayment to Deposit Account No. 10-0447, reference 49447-2USPX. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

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